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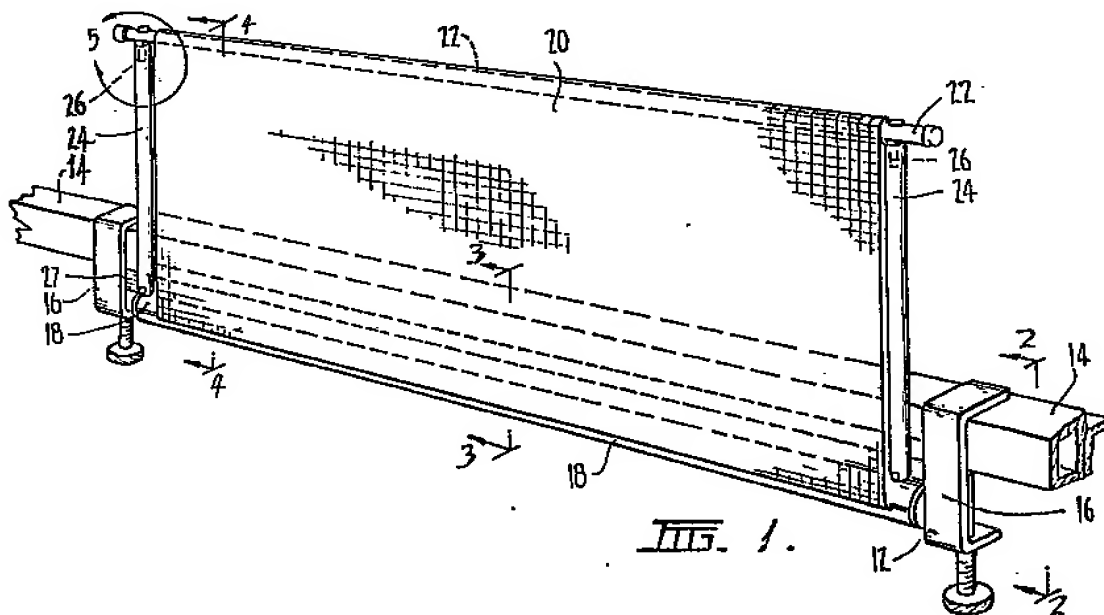
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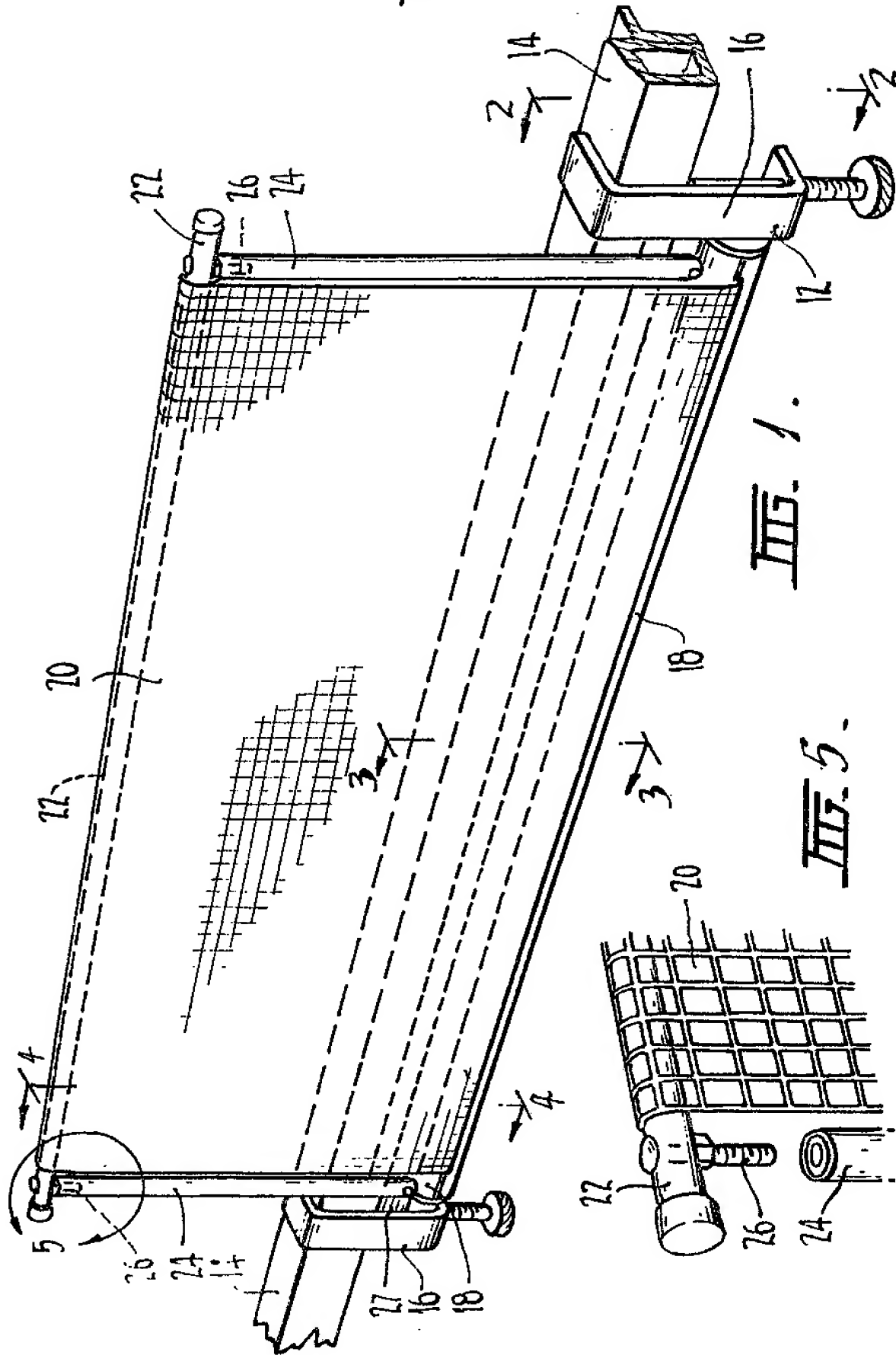
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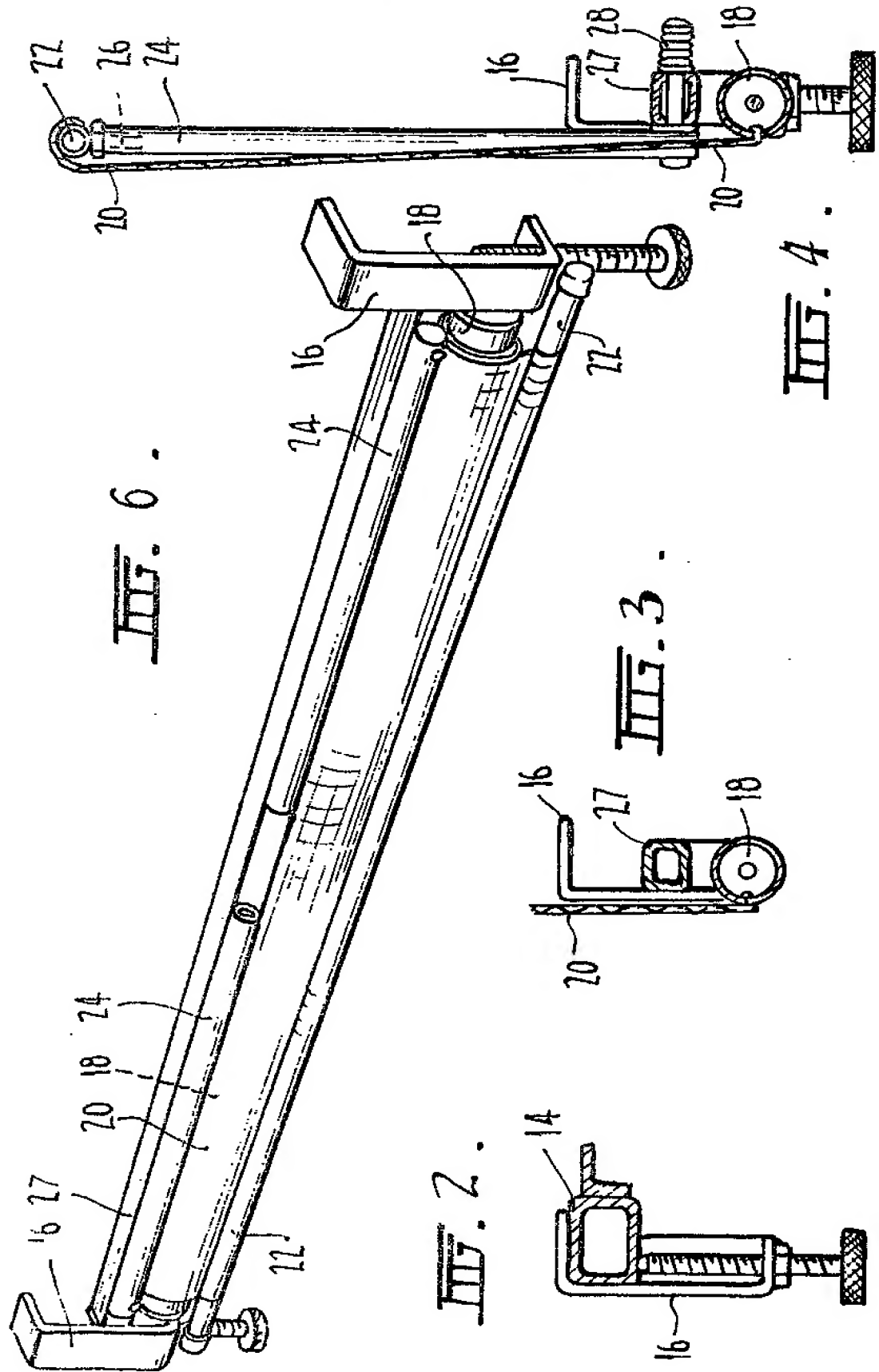
## (54) Safety rails for beds

(57) A retractable safety device for a bed comprises a flexible web or netting (20) one edge of which is attached to a rail (22) and the other edge of which can be wrapped around a retraction mechanism (18) for mounting at one side of bed. The rail (22) can occupy a stowed position (Figure 6) beside the retraction mechanism (18), or an operative position in which the rail (22) is spaced above the retraction mechanism (18) by arms (24) with the web or netting (20) extending between the rail (22) and the retraction mechanism (18) to prevent a patient from falling out of bed.



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## SPECIFICATION

## Safety rails for beds

The present invention relates to safety rails and the like such as for beds, and relates particularly, although not exclusively, to side members for hospital beds.

Hospital beds usually have provision for removable side rails which are located in apertures on the bed base for preventing a patient from falling out of bed. These rails are often awkward to manoeuvre because of their length, and when not in use may occupy considerable storage space. They are also generally expensive, being usually made of steel.

It is an object of the present invention to provide convenient and easily-manageable safety means tending to prevent a patient from falling out of bed.

A further object is to provide safety means which will be easily attachable to most types of hospital beds.

Yet a further object is to provide safety means which will not, in general, have to occupy separate storage space when not in use.

With these objects in view, the invention in one form may provide a retractable safety device for a bed, said device including a frame attached or attachable to a base of said bed, a flexible web with associated retraction means on said frame, and means connected to said web and adapted to be engaged with locating means on said bed or said frame so as, in use, to prevent undesired retraction of said web.

In order that the invention may be clearly understood and readily put into practical effect, a preferred non-limitative embodiment of a bed incorporating the retractable support means constructed in accordance with a practical embodiment of the invention will now be described with reference to the accompanying drawings, in which:—

Fig. 1 is a perspective view of a retractable support means attached to a bed rail and shown in its extended position;

Fig. 2 is a cross-sectional view along and in the direction of arrows 2—2 of Fig. 1;

Fig. 3 is a cross-sectional view along and in the direction of arrows 3—3 of Fig. 1;

Fig. 4 is a cross-sectional view along and in the direction of arrows 4—4 of Fig. 1;

Fig. 5 is an enlarged and somewhat modified view of the region indicated by circle 5 in Fig. 1; and

Fig. 6 is a perspective view similar to that of Fig. 1 showing the retractable support means in its retracted position.

The retractable support means 10 is elongated and extends along a major part of the length of a bed and is preferably secured underneath the bed so that it does not protrude greatly from the side of the bed. In this embodiment the support means 10 is attachable to a base member 14 of the bed by U-clamps 16 at each end. The means 10 includes a spring-biassed retraction mechanism

18 to which is attached a web 20 which extends for a substantial portion of the width of the means 10. The web 20 is at its free edge attached to a movable rail 22 which is wider than the distance between clamps 16 to prevent the rail 22 from fouling retraction mechanism 18, and allowing the rail to be used as a gripping means. The web 20 may be formed from plastics web or netting, canvas or any other material which will be strong enough to withstand rolling on by a patient.

Two side arms 24 are pivotally attached to either end of a fixed rail 26 connected between clamps 16, said side arms being adapted to retain the web 20 in its extended position. The arms 24 are hollow and are capable of receiving pins 26 located adjacent the respective ends of rail 22. To make the support means compact arms 24 are spring-biassed by spring 28 into the inoperative position shown in Fig. 6.

In use, the retractable support means 10 (as shown in Fig. 6) is clamped to bed frame 14 by U-clamps 16. Rail 22 is pulled upwards to cause web 20 to be unreeled from the retraction mechanism 18. The rail is locked into position by swinging out arms 24, and locating the pins 26 into the ends thereof, as shown in Fig. 5. The retraction mechanism 18 will provide a biasing force which will ensure that the rail 22 will not dislodge from arms 24. When the patient no longer requires a side rail, the web 20 may be retracted out of harm's way by lifting rail 22 to disengage pins 26 from arms 24 and allowing the retraction mechanism to wind up the web. Arms 24, when released, will resume the position shown in Fig. 6 under the bias of springs 28.

In alternate embodiments the clamps 16 may be replaced by telescopic type clamps where the screw thread is contained within a body member to provide a more aesthetic appearance. The side arms 24 need not include spring 28 but Belleville washers may be substituted therefor.

It is to be understood that modifications in details of design and construction may be made without departing from the ambit of the invention, the nature of which is set out in the appended claims.

## CLAIMS

1. A retractable safety device for a bed, said device including a frame attached or attachable to a base of said bed, a flexible web with associated retraction means on said frame, and means connected to said web and adapted to be engaged with locating means on said bed or said frame so as, in use, to prevent undesired retraction of said web.

2. The device claimed in claim 1, wherein said frame includes clamp means for attaching said device to a bed.

3. The device claimed in claim 1 or 2 wherein said means connected to said web is a rail and said locating means are arms, said rail and said arms having means co-operable to prevent retraction of the web.

4. The device claimed in claim 3, wherein said

arms are pivotally mounted to said frame.

5 The device claimed in claim 3 or 4, wherein said arms are spring-biased to an inoperative position when not in use.

6 The device claimed in any one of claims 3 to 5, wherein said co-operable means include pins on said rail and complementary apertures on the free ends of said arms.

7 The device claimed in any one of the preceding claims wherein said retraction means are spring-biased towards an inoperative condition.

8 A retractable safety device for a bed substantially as hereinbefore described with reference to the accompanying drawings.

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